

NONTECHNICAL SUMMARY OF ELECTRICAL TERMINOLOGY

NOTES

ELECTRICITY

- Current - flow of electricity; alternating, direct
- AC Direction reverses at regular intervals; frequency is usually 60 cycles per second.
- DC Current flows continuously in same direction; found in some home plants and in some downtown and industrial areas. Many home plants are 32 v
- Equipment - either a-c or d-c; or both ac-dc.
 - AC-DC - Universal motors, incandescent lighting & heating equipment unless it has automatic control, can operate on a-c or d-c if voltage is same.
 - Do not use other d-c equipment on a-c circuits, or a-c equipment on d-c circuits.
- Conductors - copper, aluminum, other metals
- Insulators - glass, porcelain, rubber, plastics
- Grounds - earth, driven rods, or piping systems when interconnected with other grounds.

COMMON TERMS OF ELECTRICAL MEASUREMENT

Term:	Definition - unit of measurement of:
Volt	A force - difference in potential
Ampere	Rate of flow - current
Ohm	Resistance to current flow
Watt	Power - rate of doing work
Kilowatt	1000 watts
Watthour	1 watt used 1 hour (watts x time)- work
Kilowatt-hour	1000 watts used for 1 hour (1 kw x 1 hr. or 100 w x 10 hrs.)
Horsepower	746 watts (1 hp = 1 kw apparent power)
Kilovolt-ampere	1000 volt-amperes (transformer capacity)
Demand	W or kw load at installation terminals

COST FORMULA FOR ELECTRICITY

$\frac{\text{watts} \times \text{hours}}{1000}$ gives kwh

kwh x \$ per kwh gives cost

USEFUL FORMULAS (Strictly speaking, these apply to heating equipment and incandescent lighting only.)

amperes x volts = watts $\frac{\text{watts}}{\text{volts}} = \text{amperes}$

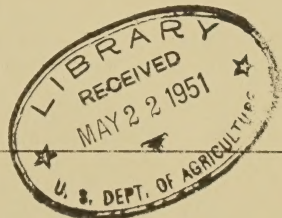
(amperes x volts x power factor = watts - for motors, welder, fluorescent and germicidal lamps)

INFORMATION ON NAMEPLATE OF EQUIPMENT

- Manufacturer's name, address
- Model number; serial number; type
- Volts
- Watts or amperes
- Kind of current (a-c, d-c, or both ac-dc)
- Frequency (usually 60 cycles)

RELATED ELECTRICAL TERMS - from power source to house

- Generation plant Transmission lines
- Substations Distribution lines
- Types of distribution (primary or "high") lines
 - Single-phase (2-wire on distribution lines)
 - Three-phase (4-wire or 3-wire on distribution lines)
- Transformer (1½, 3, 5, 7½, 10, 15, 25 kva or larger)



Secondary lines

Single-phase: 2-wire, 115 v; or 3-wire, 115/230 v

Three-phase: 4-wire, 115/230 v (single and 3-phase)

Yard pole or meter pole

Meter loop

Kwh meter (watt-hour meter), dial or cyclometer type

Service wires

Service drops

Service entrance switch (main disconnect)

Service entrance - types

2-wire 115 v (110 to 120 v)

3-wire 115/230 v (120/240 v)

Service equipment (load or control center)

Circuit breaker or fuse box, sometimes main &
branch panel boxes with feeders or risers

Protective devices - breakers or fuses

Ground - electrical connection to earth

Circuits

Open ("dead," "cold")

Closed ("live," "hot")

Types of interior-wiring circuits:

General purpose (15 amp branch circuit)

Appliance (20 amp branch circuit)

Individual appliance - special purpose or heavy duty

Convenience outlets (double or duplex, triple)

Power or heavy-duty outlets

Lighting outlets

Toggle or low-voltage switches

Fixtures, portable lamps & equipment or appliances

ABBREVIATIONS USED IN ELECTRICAL LITERATURE

A. Angstrom (unit for measuring wave length)

amp ampere (also a. or A)

a-c alternating current (also AC, A.C., a.c.)

AM amplitude modulation - radio

AWG American Wire Gauge (Awg)

Btu British thermal unit (also B.T.U.)

cal calorie

d-c direct current (also DC, D.C., d.c.)

E-viton Erythema viton - sun lamp rating

ft-c foot-candle (also FC, ft.-c.)

ft-l foot-lambert (also FL, ft.-l.)

FM frequency modulation - radio

hp horsepower

K. Kelvin (degrees temperature; fluorescent)

kc kilocycle (also kc.)

kva kilovolt-ampere (also kv.-a., kv-a)

kw kilowatt (also kw., KW)

kwh kilowatt-hour (also K.W.H., kw.-hr., kw-h)

rpm revolutions per minute (also r.p.m.)

T-rated tungsten-rated - applies to switches

v volt (also V, v.)

w watt (also W, w.)

wh watt-hour
